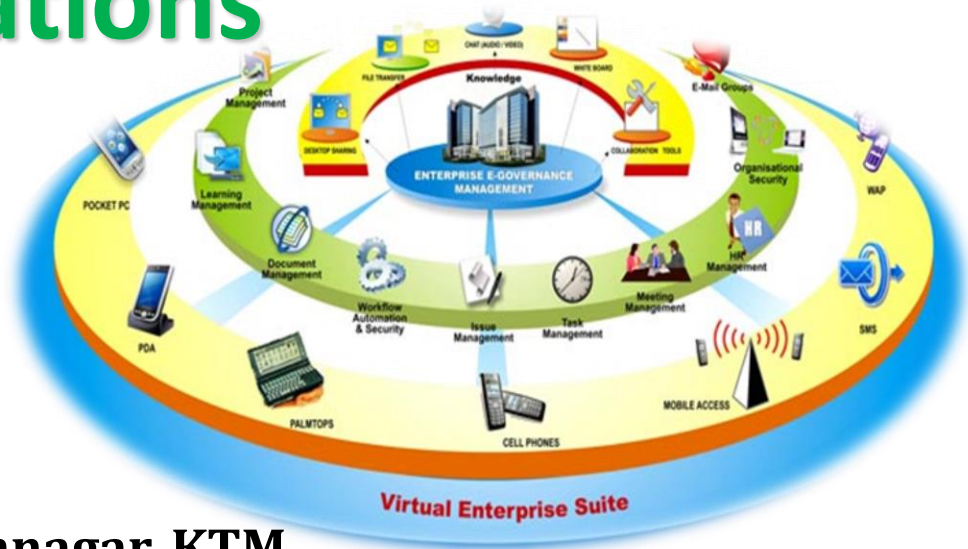




# UNIT -V

## Management Information System

### Business Applications



Venue: Liberty College, Anamnagar, KTM

Date: 20<sup>th</sup> November 2016

By: Laxman Pokhrel





# E-Commerce



- The use of ICT in businesses is not new  
e.g. the telegraph, the phone
- E-commerce just one more channel?
- E-commerce just a new variation on an old model?



- Commerce: The exchange of goods and services for some value
- Electronic: Use of computer and communication technologies
- **In General ....**  
E-Commerce refers to the process of buying or selling a product or service over an electronic network.
- But is it limited to buying or selling?



# Management Information Systems

## Unit 5: Business Applications

# E-Commerce



- E-commerce is the use of information systems, technologies, and computer networks to carry out transactions in order to create or support the creation of business value.
- E-Commerce includes all types of computer networks and all types of transactions including electronic funds transfers and EDI over private networks as well as retail sales and wholesale exchanges over public networks like the Internet.



### In fact:

- Electronic => via the Internet, an intranet, or a private network
  - Computer to computer
  - Person to computer
  - Computer to person
  - Person to person via computer network
- Commerce => Virtually any aspect of business exchange
  - The complete selling cycle, or just a single part of the cycle such as payment or service





### E-Commerce



- Traditional commerce:
  - Buy a watch at a department store
- Partial e-commerce
  - Buy a watch online at an e-store
- Pure e-commerce
  - Buy a e-book online at an e-store using e-cash



# Management Information Systems

## Unit 5: Business Applications

### E-COMMERCE

### vs TRADITIONAL COMMERCE



Key elements	E-commerce	Traditional commerce
Value Creation	Information	Product/Service
Strategy	Sense and respond Simple rules	Classical
Competitive edge	Speed	Quality/Cost
Competitive force	Low barriers of entry Power of customers	Power of suppliers Product substitution
Resource focus	Demand side	Supply side
Customer interface	Screen-to-face	Face-to-face
Communication	Technology-mediated channels	Personal
Accessibility	24 x 7	Limited time
Customer interaction	Self-service	Seller influenced
Consumer behavior	Personalization One-to-one marketing	Standardization Mass/one-way marketing
Promotion	Word of mouth	Merchandising
Product	Commodity	Perishables, feel & touch



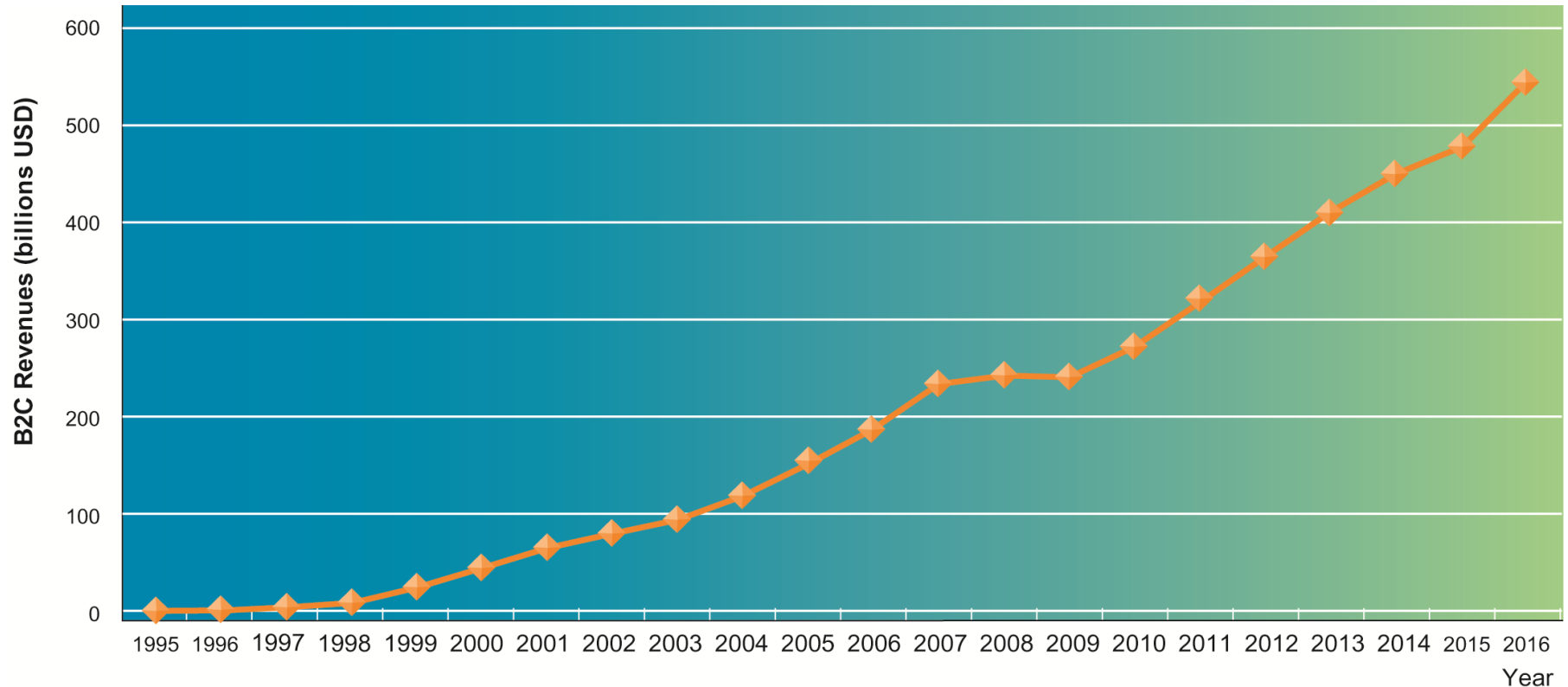


# Management Information Systems

## Unit 5: Business Applications



## *The Growth of E-Commerce*



Retail e-commerce revenues grew 15–25 percent per year until the recession of 2008–2009, when they slowed measurably. In 2012, e-commerce revenues are growing again at an estimated 15 percent annually.



# Anonymous e-Mail Joke

Three beggars were begging in New York City, each with a small cup in his hand. The first one wrote “**beg**” on his broken steel cup and he received 10 bucks after one day.

The second one wrote “**beg.com**” on his cup and after one day he received hundreds of thousand dollars. Someone even wanted to take him to NASDAQ.

The third one wrote “**e-beg**” on his cup. Both IBM and HP sent vice presidents to talk to him about a strategic alliance and offered him free hardware and professional consulting while Larry Ellison claimed on CNBC that **e-beg** uses 95% Oracle technology and i2 announced **e-beg** Trade Matrix, a B2B industry portal to offer supply chain integration in the beggar community.



# Internet-based Business sector

- **Internet**

Whether it's buying, selling, gathering information, managing, or communicating, the driving force behind the evolutionary and revolutionary business is the Internet and its technological advances.



## E-commerce and the Internet

- **Eight unique features of Internet and Web as commercial medium**
  - Ubiquity
  - Global reach
  - Universal standards
  - Richness
  - Interactivity
  - Information density
  - Personalization/customization
  - Social technology



## E-commerce and the Internet

### – Ubiquity

- Internet/Web technology available everywhere: work, home, and so on, anytime.
- Effect:
  - Marketplace removed from temporal, geographic locations to become “marketspace”
  - Enhanced customer convenience and reduced shopping costs
- Reduces transaction costs
  - Costs of participating in market



### E-commerce and the Internet



- **Global reach**

- The technology reaches across national boundaries, around Earth
- Effect:
  - Commerce enabled across cultural and national boundaries seamlessly and without modification.
  - Marketspace includes, potentially, billions of consumers and millions of businesses worldwide.





## E-commerce and the Internet

- **Universal standards**

- **One set of technology standards: Internet standards**

- **Effect:**

- Disparate computer systems easily communicate with one another
    - Lower market entry costs—costs merchants must pay to bring goods to market
    - Lower consumers' search costs—effort required to find suitable products



## E-commerce and the Internet

- **Richness**

- **Supports video, audio, and text messages**

- **Effect:**

- Possible to deliver rich messages with text, audio, and video simultaneously to large numbers of people.
    - Video, audio, and text marketing messages can be integrated into single marketing message and consumer experience.



- **Interactivity**

- The technology works through interaction with the user.
- **Effect:**
  - Consumers engaged in dialog that dynamically adjusts experience to the individual.
  - Consumer becomes co-participant in process of delivering goods to market.



- **Information density**

- Large increases in information density—the total amount and quality of information available to all market participants
- **Effect:**
  - Greater price transparency
  - Greater cost transparency
  - Enables merchants to engage in price discrimination



## E-commerce and the Internet

- **Personalization/Customization**
  - Technology permits modification of messages, goods
  - Effect:
    - Personalized messages can be sent to individuals as well as groups.
    - Products and services can be customized to individual preferences.



### E-commerce and the Internet



- **Social technology**

- **The technology promotes user content generation and social networking**
- **Effect:**
  - New Internet social and business models enable user content creation and distribution, support social networks
  - Many-to-many model



**TABLE 10.2 EIGHT UNIQUE FEATURES OF E-COMMERCE TECHNOLOGY**

E-COMMERCE TECHNOLOGY DIMENSION	BUSINESS SIGNIFICANCE
<i>Ubiquity.</i> Internet/Web technology is available everywhere: at work, at home, and elsewhere via desktop and mobile devices. Mobile devices extend service to local areas and merchants.	The marketplace is extended beyond traditional boundaries and is removed from a temporal and geographic location. "Marketspace" anytime, is created; shopping can take place anywhere. Customer convenience is enhanced, and shopping costs are reduced.
<i>Global reach.</i> The technology reaches across national boundaries, around the earth.	Commerce is enabled across cultural and national boundaries seamlessly and without modification. The marketspace includes, potentially, billions of consumers and millions of businesses worldwide.
<i>Universal Standards.</i> There is one set of technology standards, namely Internet standards.	With one set of technical standards across the globe, disparate computer systems can easily communicate with each other.
<i>Richness.</i> Video, audio, and text messages are possible.	Video, audio, and text marketing messages are integrated into a single marketing message and consumer experience.
<i>Interactivity.</i> The technology works through interaction with the user.	Consumers are engaged in a dialog that dynamically adjusts the experience to the individual, and makes the consumer a co-participant in the process of delivering goods to the market.
<i>Information Density.</i> The technology reduces information costs and raises quality.	Information processing, storage, and communication costs drop dramatically, whereas currency, accuracy, and timeliness improve greatly. Information becomes plentiful, cheap, and more accurate.
<i>Personalization/Customization.</i> The technology allows personalized messages to be delivered to individuals as well as groups.	Personalization of marketing messages and customization of products and services are based on individual characteristics.
<i>Social Technology.</i> The technology supports content generation and social networking.	New Internet social and business models enable user content creation and distribution, and support social networks.





### E-commerce and the Internet



- **Effect of the Internet on the marketplace:**
  - Reduces information asymmetry
  - Offers greater flexibility and efficiency because of:
    - Reduced search costs and transaction costs
    - Lower menu costs
    - Greater price discrimination
    - Dynamic pricing
  - May reduce or increase switching costs
  - Increased market segmentation
  - Stronger network effects
  - More disintermediation

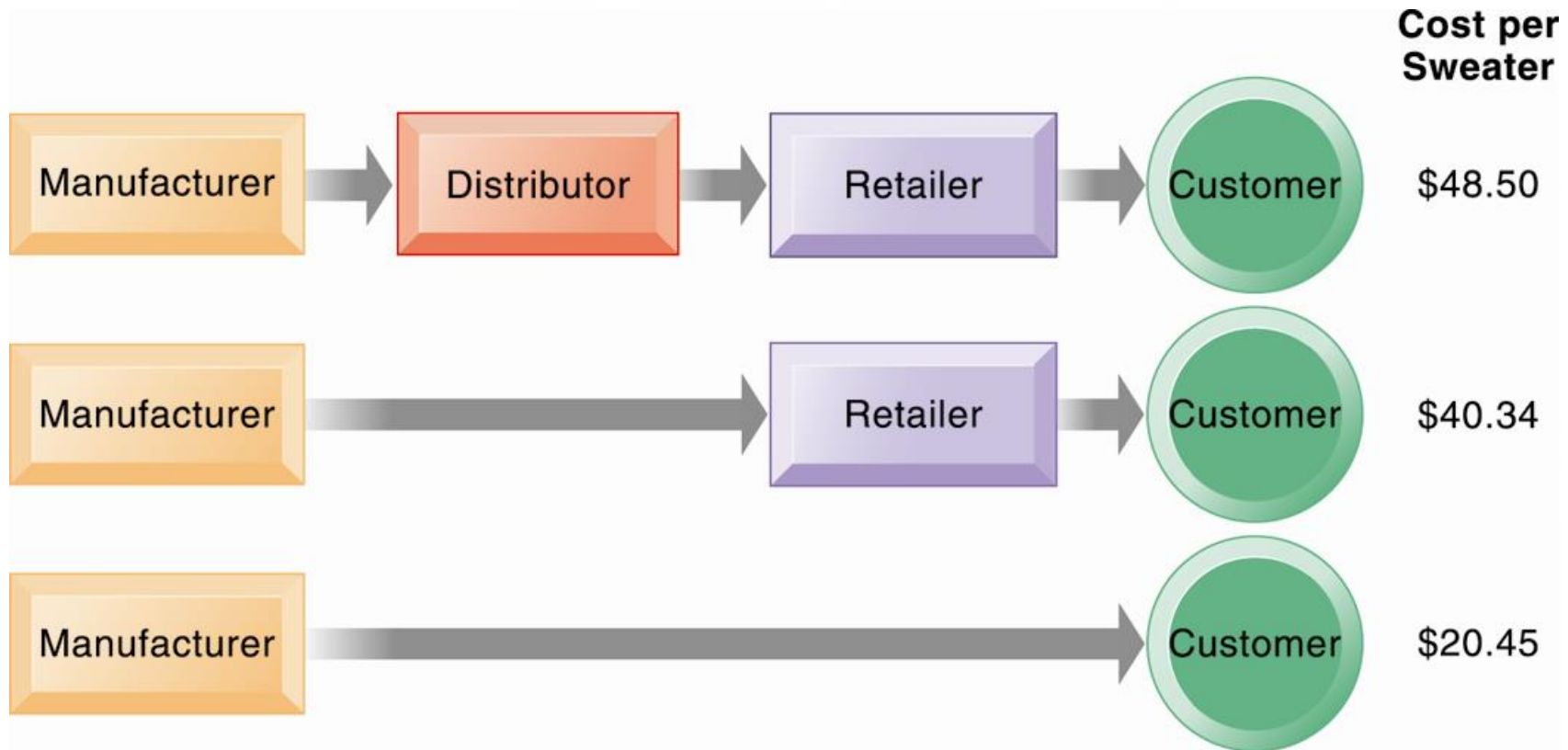


# Management Information Systems

## Unit 5: Business Applications



### *The Benefits of Disintermediation to the Consumer*



The typical distribution channel has several intermediary layers, each of which adds to the final cost of a product, such as a sweater. Removing layers lowers the final cost to the consumer.



# Internet-based Business sector

- How Internet reduces transaction cost?

Transaction	Traditional	Internet
Checking bank account balance	\$1.08	\$0.13
Answering customer question	\$10-\$45	\$1-\$5 email query \$0.1-\$0.2 Web self
Trading 100 shares of stock	\$100	\$9.95
Processing an expense record	\$36, 22days	\$4-\$8, 72hours
Paying a bill	\$2.22-\$3.22	\$0.65-\$1.1
Sending an advertising brochure	\$0.75-\$10	\$0-\$0.25





# Internet-based Business sector

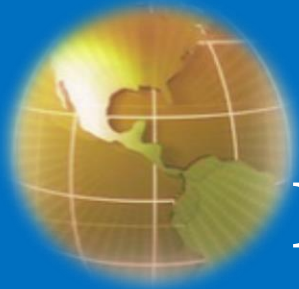
- **Digital goods**
  - **Goods that can be delivered over a digital network**
    - For example: music tracks, video, software, newspapers, books
  - **Cost of producing first unit is almost entire cost of product**
  - **Costs of delivery over the Internet very low**
  - **Marketing costs remain the same; pricing highly variable**
  - **Industries with digital goods are undergoing revolutionary changes (publishers, record labels, etc.)**



# Internet-based Business sector

- **Three major types of e-commerce**
  - **Business-to-consumer (B2C)**
    - Example: thamel.com
  - **Business-to-business (B2B)**
    - Example: alibaba,
  - **Consumer-to-consumer (C2C)**
    - Example: eBay, hamrobazar.com
- **E-commerce can be categorized by platform**
  - **Mobile commerce (m-commerce)**





# Internet-based Business sector

## The 'newer' models

- C2B – consumers sourcing possibilities from corporations
- G2C – interactions with citizens, not consumers



# Management Information Systems

## Unit 5: Business Applications

# E-Business Markets



	To Business	To Consumer	To Government
<b>Initiated by Business</b>	Business-to-Business <b>(B2B)</b> <i>Ariba</i> <a href="http://www.ariba.com">www.ariba.com</a>	Business-to-Consumer <b>(B2C)</b> <i>Amazon</i> <a href="http://www.amazon.com">www.amazon.com</a>	Business-to-Government <b>(B2G)</b> <i>Western Australian Government Supply</i> <a href="http://www.ssc.wa.gov.au/">www.ssc.wa.gov.au/</a>
<b>Initiated by Consumer</b>	Consumer-to-Business <b>(C2B)</b> <i>Better Business Bureau site</i> <a href="http://www.bbb.org">www.bbb.org</a>	Consumer-to-Consumer <b>(C2C)</b> <i>eBay</i> <a href="http://www.ebay.com">www.ebay.com</a>	Consumer-to-Government <b>(C2G)</b> <i>GovWorks</i> <a href="http://www.govworks.com">www.govworks.com</a>
<b>Initiated by Government</b>	Government-to-Business <b>(G2B)</b> <i>Small Business Administration site</i> <a href="http://www.sba.gov">www.sba.gov</a>	Government-to-Consumer <b>(G2C)</b> <i>USPS</i> <a href="http://www.usps.com">www.usps.com</a>	Government-to-Government <b>(G2G)</b> <i>FirstData</i> <a href="http://www.fdgs.com/">http://www.fdgs.com/</a>



# Management Information Systems

## Unit 5: Business Applications

# Web Store Requirements



### Developing a Web Store

- **Build**

- Website design tools
- Site design templates
- Custom design services
- Website hosting

- **Market**

- Web page advertising
- E-mail promotions
- Web advertising exchanges with affiliate sites
- Search engine registrations

### Serving Your Customers

- **Serve**

- Personalized Web pages
- Dynamic multimedia catalog
- Catalog search engine
- Integrated shopping cart

- **Transact**

- Flexible order process
- Credit card processing
- Shipping and tax calculations
- E-mail order notifications

- **Support**

- Website online help
- Customer service e-mail
- Discussion groups and chat rooms
- Links to related sites

### Managing a Web Store

- **Manage**

- Website usage statistics
- Sales and inventory reports
- Customer account management
- Links to accounting system

- **Operate**

- 24x7 website hosting
- Online tech support
- Scalable network capacity
- Redundant servers and power

- **Protect**

- User password protection
- Encrypted order processing
- Encrypted website administration
- Network firewalls and security monitors



# Web Store Requirements



- Build a website
  - Choose or set up web hosting
  - Use simple design tools and templates
  - Include a shopping cart and payment support
- Market the website
  - Include Web page and e-mail advertising and promotions
  - Exchange advertising with other Web stores
  - Register with search engines and directories
  - Sign up for affiliate programs



# Web Store Requirements



- **Convert visitors into loyal customers**
  - Develop one-to-one relationship with customers
  - Create incentives to encourage registration
  - Use Web cookies to identify visitors
  - Use tracking services to record and analyze website behavior and customer preferences
  - Create an attractive, friendly, efficient store
  - Offer fast order processing and payment
  - Notify when orders are processed and shipped
  - Provide links to related websites





# Web Store Requirements



- **Manage** both the business and the website
  - Record and analyze traffic, inventory, sales
  - Use CRM features to help retain customers
  - Link sales, inventory data to accounting systems
- **Operate** 24 hours a day, seven day a week
- **Protect** transactions and customer records
  - Use security monitors and firewalls
  - Use redundant systems and power sources
  - Employ passwords and encryption
  - Offer 24-hour tech support





# E-commerce Business Models



- A business model defines how a company will meet the needs of its customers while making a profit.
- An e-commerce business model is a business model appropriate for conducting business via electronic networks.



## E-commerce: Business and Technology

- E-commerce business models**

CATEGORY	DESCRIPTION	EXAMPLES
E-tailer	Sells physical products directly to consumers or to individual businesses.	Amazon RedEnvelope.com
Transaction broker	Saves users money and time by processing online sales transactions and generating a fee each time a transaction occurs.	ETrade.com Expedia
Market creator	Provides a digital environment where buyers and sellers can meet, search for products, display products, and establish prices for those products. Can serve consumers or B2B e-commerce, generating revenue from transaction fees.	eBay Priceline.com



## E-commerce: Business and Technology

- E-commerce business models**

CATEGORY	DESCRIPTION	EXAMPLES
Content provider	Creates revenue by providing digital content, such as news, music, photos, or video, over the Web. The customer may pay to access the content, or revenue may be generated by selling advertising space.	WSJ.com GettyImages.com iTunes.com Games.com
Community provider	Provides an online meeting place where people with similar interests can communicate and find useful information.	Facebook Google+ iVillage, Twitter



## E-commerce: Business and Technology

- E-commerce business models**

CATEGORY	DESCRIPTION	EXAMPLES
Portal	Provides initial point of entry to the Web along with specialized content and other services.	Yahoo Bing Google
Service provider	Provides Web 2.0 applications such as photo sharing, video sharing, and user-generated content as services. Provides other services such as online data storage and backup.	Google Apps Photobucket.com Dropbox

For the models idea can be adapted from Michael Rappa,  
<http://digitalenterprise.org/models/models.html>.



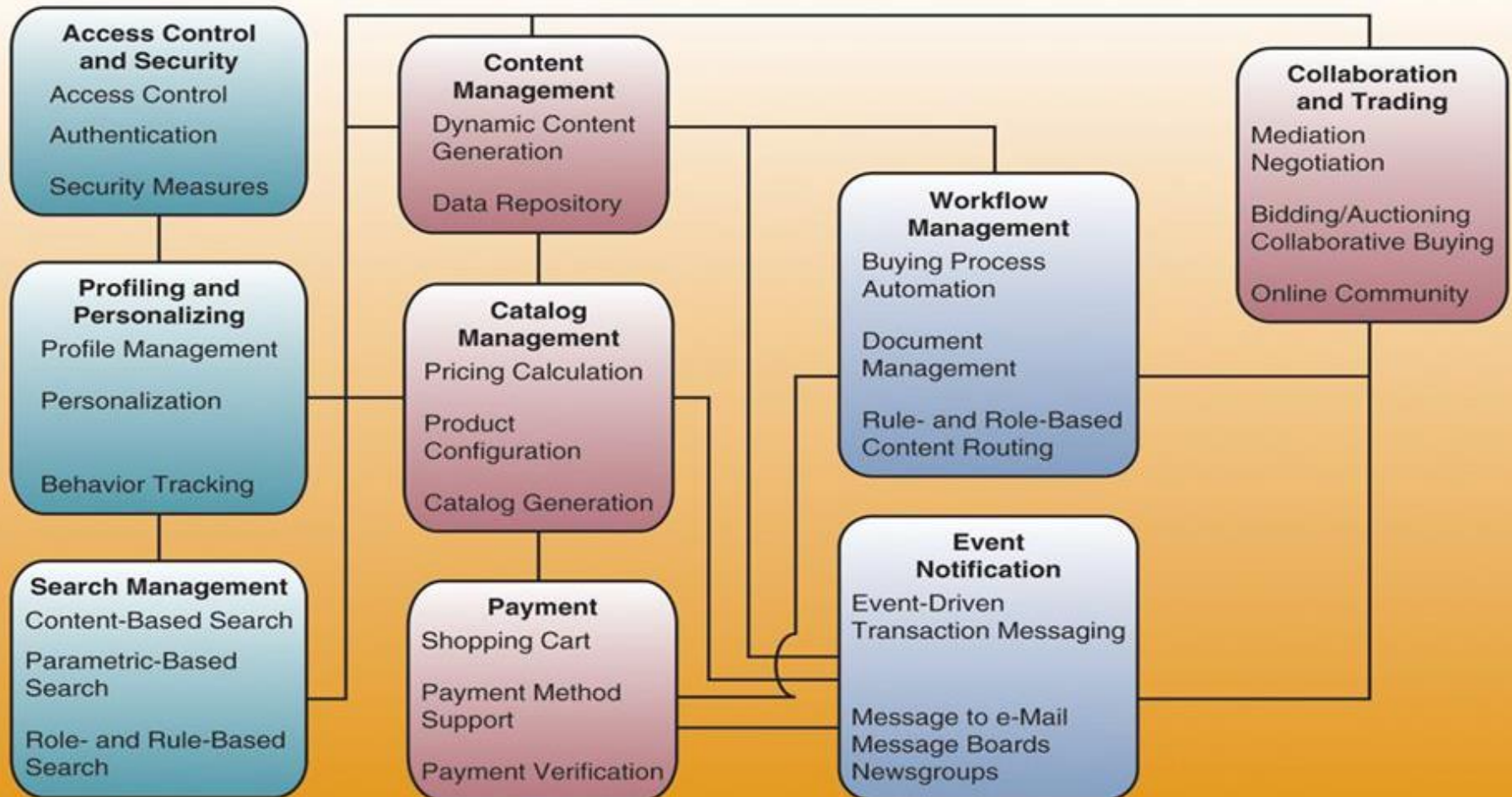


# Management Information Systems

## Unit 5: Business Applications



## Essential e-Commerce Processes





## Essential e-Commerce Processes

### Access Control and Security

- E-commerce processes must establish mutual trust and secure access between parties
  - User names and passwords
  - Encryption key
  - Digital certificates and signatures
- Restricted access areas
  - Other people's accounts
  - Restricted company data
  - Webmaster administration areas







## Essential e-Commerce Processes

### Search Management

- Search processes help customers find the specific product or service they want
  - E-commerce software packages often include a website search engine
  - A customized search engine may be acquired from companies like Google or Requisite Technology
  - Searches are often on content or by parameters



## Essential e-Commerce Processes

### Content and Catalog Management

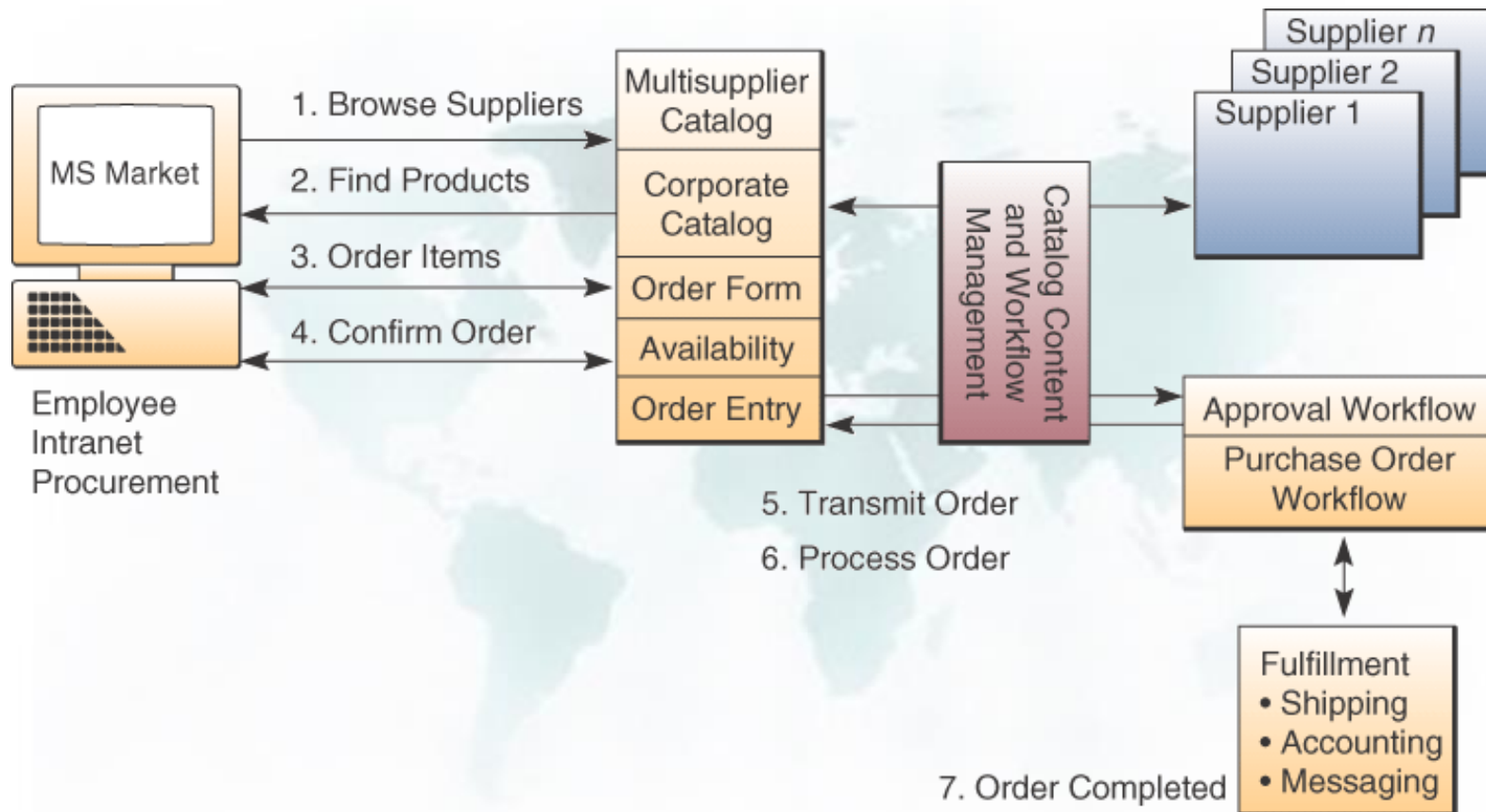
- **Content Management Software**
  - Helps develop, generate, deliver, update, and archive text and multimedia information at e-commerce websites
- **Catalog Management Software**
  - Helps generate and manage catalog content
- **Catalog and content management software works with profiling tools to personalize content**
  - Includes product configuration and mass customization





## Essential e-Commerce Processes

### Example of Workflow Management





## Essential e-Commerce Processes

### Event Notification

- **Most e-commerce applications are event driven**
  - Responds to such things as customer's first website visit and payments
  - Monitors all e-commerce processes
  - Records all relevant events, including problem situations
  - Notifies all involved stakeholders
  - Works in conjunction with user-profiling software





## Essential e-Commerce Processes

### Collaboration and Trading

- **Processes that support vital collaboration arrangements and trading services**
  - Needed by customers, suppliers, and other stakeholders
- **Online communities of interest**
  - E-mail, chat, discussion groups
  - Enhances customer service
  - Builds loyalty



# Next class suggested reading

## Electronic Payment System

Questions??